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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

RIO GRANDE DRAINAGE BASIN

March 1, 1942

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Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

March 10, 1942

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The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service of the U.S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

P R E C I P I T A T I O N D A T A

WATERSHED	STATE	Precipitation October 1 to February 28	Departure from Normal	Precipitation February	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	4.43	+1.15	0.31	-0.20
Rio Grande	Colorado	3.67	-0.20	1.37	-0.08
Rio Grande	New Mexico	6.57	+1.23	.78	- .38
Pecos	New Mexico	5.39	+1.73	.42	- .22

SUMMARY OF MARCH 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF
PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth		Water Content			Snow Density		1942 Water Content	
	Six Year Avg.*	1941	1942	Six Year Avg.*	1941	1942	Six Year Avg.*	1941	1942
Rio Grande	In. 34.1	In. 41.1	In. 32.0	In. 9.4	In. 12.4	In. 7.5	Percent 28	Percent 30	Percent 23
Canadian River	17.4	24.6	15.2	5.0	8.0	3.4	29	32	22

*Some for shorter periods.

WATER SUPPLY OUTLOOK

Precipitation was light during February over the watershed of the Rio Grande and its tributaries in New Mexico and Colorado and the Pecos in New Mexico. The total precipitation from October 1 to March 1 was, however, above normal except in Colorado.

RIO GRANDE. The water content of the snow on 20 snow courses on the headwaters of the Rio Grande and its tributaries in Colorado and New Mexico on March 1 was 40 percent less than it was a year ago and 20 percent less than the six-year average for the courses. Conditions have improved slightly since February 1. Snow density is less than usual. The soil is moist to a considerable depth in the valley areas and in the San Luis Valley the water table in the subirrigated districts is higher than normal. The water stored in reservoirs in the San Luis Valley is much greater than it was at this time last year. Farmers Union reservoir is filled to capacity. The El Vado reservoir in New Mexico has 7 times as much water in storage as it did a year ago. The Caballo reservoir is full and the Elephant Butte reservoir, with 1,875,000 acre-feet storage, is now filled to 85 percent of capacity. Stream flows throughout the area are from 40 to 75 percent above normal.

CANADIAN. The density of the snow on the watershed of the Canadian is considerably less than it was last year. The water content of the snow on March 1, as shown by measurement on 2 courses, was 58 percent less than it was a year ago and 32 percent less than the 6-year average for the courses. Soil moisture in the valley areas is adequate for farm crops and extends to a depth of 6 or 8 feet. Conchas reservoir has nearly 4 times as much water in storage as it did a year ago and is now filled to two-thirds of its capacity. The maximum flow of Ute Creek during February was 75 cubic feet per second.

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The water supply outlook for the Canadian and Rio Grande drainage basins did not change appreciably during February. The indications are that the run off from snow will be less than normal, but because the soil moisture condition is excellent and the amount of water in storage is exceptionally large, the outlook for the irrigation water supply is favorable at this time.

-3- RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys
Issued March 10, 1942, at Fort Collins, Colo.

Main Drainage and Snow Course			Local Drainage		Location		Elev.	National Forest	Mar. 1 Snow Cover Measurements				
No.			State	Locality	Description	Av. @ 1941			Snow Depth 1941	Av. Water Content 1941	Av. @ 1942	Snow Depth 1942	Av. Water Content 1942
RIO GRANDE													
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr. Pass	4-37N-2E	10000	Rio Grande	74.3	75.0	74.9	22.4	25.1	20.1
27	Upper Rio Grande	Rio Grande	"	Rio Grande Res.	13-40N-4W	9350	"	--	30.0	--	--	6.7	--
47	Silver Lakes	Alamosa R.	"	1 mi. S. Silver L.	15-36N-5E	9600	"	22.0	23.5	18.6	4.5	6.0	3.1
49	River Springs	Conejos R.	"	10 mi. W. Mogote	25-33N-6E	9300	"	26.9	25.3	22.9	6.5	6.2	4.4
74	LaVeta Pass #2	SanCristoCr.	"	LaVeta Pass	22-28S-70W	9300	SanCristoGr	31.6	30.3	24.3	7.1	8.0	3.1
75	Ute Ridge	Rio Grande	"	Rio Grande Res.	31-41N-4W	9700	Rio Grande	--	--	--	--	--	--
76	Summitville	Wightman Cr.	"	Summitville	30-37N-1E	11500	"	62.4	65.2	78.5	17.4	19.2	22.3
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	"	69.8	82.0	57.7	22.6	26.5	16.1
80	Santa Maria	W. Clear Cr.	"	Santa Maria Res.	8-41N-2W	9700	"	18.1	26.5	18.6	3.7	5.4	3.9
82	Culebra	Culebra R.	"	12 mi. E. San Luis	37-2N105.2W	10000	SanCristoGr	40.7	46.2	35.5	10.6	12.7	8.0
84	Fort Garland	Big Ute Cr.	"	6 mi. N. Ft. Garland	13-29N-72W	8200	"	16.9	24.5	14.0	4.2	6.7	2.8
1	Red River	Red River	N. Mex.	6 mi. SE. Red River	29-28N-15E	9500	Carson	29.5	34.8	30.4	8.0	9.9	6.6
2	Taos Canyon	Rio de Taos	"	14 mi. E. Taos	10-25N-15E	9000	"	21.7	34.1	21.0	6.3	10.1	4.8
4	Aspen Grove	Rio En Medio	"	10 mi. NE. Santa Fe	12-18N-10E	9100	Santa Fe	21.2	32.0	16.8	5.4	9.8	3.8
5	Lee Ranch	Jemez Cr.	"	5 mi. NW. Bland	3-18N-4E	9050	"	31.2	55.0	33.8	7.6	14.9	6.8
6	Canjilon	Canjilon Cr.	"	8 mi. NE. Canjilon	4-26N-6E	9500	Carson	49.7	67.1	36.1	17.3	25.4	10.4
7	Rio Nutrias	Rio Nutrias	"	10 mi. SE. Park View	6-27N-5E	7900	"	--	28.9	--	--	7.9	--
9	Hematite Park*	Red River	"	3 mi. SE. Red R.	8-28N-15E	9500	Carson	21.5	26.7	21.5	5.8	8.7	3.6
12	Tres Ritos	Agua Piedra	"	7 mi. W. Holman	23-22N-13E	9000	"	24.9	30.6	29.7	6.7	8.6	7.2
15	Pay Role	Rock Creek	"	4 mi. SE. Hopewell	16-28N-7E	10000	"	38.1	46.0	30.2	9.3	13.3	5.3
16	Jicarilla	Rock Lake Cr.	"	15 mi. S. Dulce	9-29N-1W	8500	Jicarilla R	18.7	22.6	19.9	5.4	7.6	4.6
17	Chama Divide	Willow Creek	"	6 mi. W. Chama	36.9N-106.7W	7750	Off Forest	22.1	27.3	20.1	6.5	9.0	5.0
18	Chamita	Chamita Cr.	"	6 mi. NW. Chama	36.9N-106.7W	8500	"	41.2	48.0	34.5	11.6	16.0	7.2
19	Cordova	Cordova Canyon	"	2 mi. W. Tres Ritos	22-22N-13E	10100	Carson	--	--	45.9	--	--	11.7
20	Panchuela #2	Panchuela Cr.	"	2 mi. N. Cowles	27-19N-12E	8300	Santa Fe	--	--	15.2	--	--	3.5
21	Big Tesuque	Big Tesuque Cr.	"	10 mi. NE. Santa Fe	17-18N-11E	10000	"	--	--	20.1	--	--	5.9
							Average for Drainage	34.1	41.1	32.0	9.4	12.4	7.5
CANADIAN													
9	Hematite Park	Morena Creek	N. Mex.	3 mi. SE. Red R.	8-28N-15E	9500	Carson	21.5	26.7	21.5	5.8	8.7	3.6
10	Ocate Mesa	Ocate Creek	"	3 mi. E. Black L.	25-24N-16E	9200	Off Forest	13.3	22.5	8.8	4.2	7.2	3.3
							Average for Drainage	17.4	24.6	15.2	5.0	8.0	3.4

*On adjacent drainage
@Average for period of record.

